NWS: Amendment 2 to EHB-6, Modification Note 44
DoD: TO 31P1-4-108-558D
FAA: CHANGE EEM Modification Handbook 6345.1 CHG 8, Chap 1

Supplement to Basic Technical Order

INSTALLATION OF A 5 VOLT POWER SUPPLY IN THE RADAR DATA ACQUISITION (RDA) DIGITAL CONTROL UNIT (DCU) DRAWER

DOPPLER METEOROLOGICAL RADAR

WSR-88D

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COMMERCE, THE AIR FORCE, THE NAVY, AND TRANSPORTATION

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NWS/DOD APPROVAL:

BY ORDER OF THE SECRETARY OF THE AIR FORCE

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NOTES

(NWS) This amendment supplements Modification Note 44, EHB-6, Issuance 97-16, issuance date 17 November 1997.

(DoD) This technical order supplements TO 31P1-4-108-558, data code 3118128, issuance date 17 November 1997.

(FAA) This change revises EEM Modification Handbook 6345.1 Chap 1, issuance date 17 November 1997.

This amendment affects paragraphs 1, 2, 3, 15 and inserts a new attachment 4.

1. SUBJECT

Installation of a 5 Volt Power Supply in the Radar Data Acquisition (RDA) Digital Control Unit (DCU) drawer.

2. PURPOSE

The purpose of this amendment is to provide instructions to move the wirewrap connection on the DAU backplane from pin XA2AA27 to pin XA2AA25 and provide adaptation data changes.

The authority for this modification is Operational Support Facility (OSF) Engineering Change Proposal (ECP) F0086, Pedestal Encoder Voltage Level Upgrade.

For additional information concerning this modification note, contact the Operational Support Facility, System Support Branch, Norman, Oklahoma; phone number: (405) 366-6540 ext 3229.

3. SITES AFFECTED

This NWS amendment, DoD supplement, and FAA change affects all WSR-88D RDA sites.

15. PROCEDURES

Use the following table to remove and replace the affected pages. Place this amendment in front of the original Combined Document (Modification Note 44, TO 31P1-4-108-558, and EEM Modification Handbook 6345.1 Chap 1), as an official record of the changes made below:

Remove Pages	Replacement Pages
	New D1 - D8

Attachment 4 (pages D1 - D8) is **NOT** to be accomplished until Combined Document Software Note 11, DoD Memo-001 and FAA EEM Modification Handbook 6345.1 Chap 6, CHG 6 (Software Build 10.0) has been completed.

ATTACHMENT 4

MODIFICATION TO ENABLE THE RDA TO MONITOR THE PEDESTAL ENCODER POWER SUPPLY

Tools Required:

Digital Multi-meter
ESD Wrist Strap
Wire Wrap Tool
Wire Stripping Tool (capable of stripping 3Ø AWG wire)
Wire Cutting Tool
Screwdriver Set, Phillips
Small Pair of Needle Nose Pliers

WARNING

Failure to perform applicable shutdown steps below could cause damage to equipment.

Note

If you have RDA/RPG Remote Access Terminal installed at your site, refer to the corresponding keystrokes that apply to your system (i.e. <Enter> versus <Return> and <Alt> <Tab> versus SHIFT and PORT keys). RDA/RPG Remote Access Terminal keystrokes differences will be located in the conversion chart that has been provided to you with the RDA/RPG Remote Access Terminal installation kit. All keystrokes that have a double underline will require you to refer to the conversion chart for the applicable key strokes. (i.e. <Return> will convert to <Enter>).

1. Perform the following shutdown procedures:

   a. At the Unit Control Position (UCP) Applications Terminal, verify that the Radar Product Generation (RPG) Main Menu is displayed. If not press the **<F1>** key to display the main menu.

   b. At the RPG Main menu command line, enter **RD<Return>** and verify that the RDA Control menu is displayed.

   c. Verify that the RDA is in remote control by the following message:

      ```
      RDA
      CNTL
      RPG
      ```

   d. Enable local control of the RDA by entering **EN<Return>** at the command line and verify that `COMMAND EXECUTED-RD,EN` is displayed.

e. Redundant systems perform the following steps:

(1) Repeat steps 1a through 1d for UCP #1.

(2) NWS: At the RDA site, turn the A/B switch to the **A** (local) position.

(3) FAA: At the RDA site, turn the A/B switch to the **B** (operational/RDA maintenance) position.

f. At the RDA Maintenance Terminal Man Machine Interface (MMI) Main menu, enter **RELC<Return>** to request local control of the RDA.

g. At the RDA MMI command line, enter **ARCH<Tab right>D<Return>** to ensure Archive II is idle.

Note

Wait for the status of Archive II to change to Installed `INST` at the RDA MMI before placing the transmitter in standby. The period of time for this to happen will vary according to the VCP you are currently operating in. Let the transmitter run until the VCP finishes its highest elevation cut.

h. Enter **STBY<Return>** at the RDA MMI command line and verify that `STBY ACCEPTED` is displayed.

i. At the RDA MMI command line, enter **TERP<Tab right>***password***<Return>** to terminate the application program. The default password is FLOYD.

j. At the RDA MMI, simultaneously press the **SHIFT** and **PORT** keys to display the system console screen. `TASK Ø2: END OF TASK` message appears after a short delay.

k. At the * prompt, enter **D TA<Return>** and observe the display. If `TASK(S) NOT FOUND` is displayed or `TIME` is the only task displayed, proceed to step 1n.

l. At the * prompt, enter **CA***Taskid***<Return>** to cancel each Taskid found except for `TIME`.

m. At the * prompt, enter **ERR LOG,OFF<Return>** to mark log off.

n. At the * prompt, enter **MA DSCØ:,OFF<Return>** to mark the disk drive off.

o. Simultaneously press the **<CTRL>** and **V** keys twice, followed by **<Return>** to access the CDS prompt.

ATTACHMENT 4 (Continued)

MODIFICATION TO ENABLE THE RDA TO MONITOR THE PEDESTAL ENCODER POWER SUPPLY

p. At the CDS> prompt, enter **PO OFF<Return>** to shut down the Swing-Out Power Supply Subsystem.

q. All Redundant sites: Repeat steps 1e through 1p for RDA #1.

r. At the RDA Maintenance Panel (UD5A2), place the pedestal electronics power switch to the **OFF** position.

s. At the RDA Maintenance Panel (UD5A2), place the DAU power switch to the **OFF** position.

t. Redundant sites: At the RDA Maintenance Panel (UD105A2), place the DAU power switch to the **OFF** position.

u. NWS and DOD Single: At the RDA Secondary Power Distribution Panel (UD7A28), switch the RDA data processor breakers, CB 15, 17, and 19 (ganged) to the **OFF** position.

v. NWS Redundant: At the RDA Secondary Power Distribution Panel #3 (UD7A29), switch the RDA data processor breakers, CB 9, 11 and 13 (ganged) and CB 15, 17, and 19 (ganged) to the **OFF** position.

w. FAA Redundant: At the RDA Secondary Power Distribution Panel #1 and at the RDA Secondary Panel #2 (UD7A3Ø), switch the RDA data processor breakers CB 15, 17, and 19 (ganged) to the **OFF** position.

2. Perform the following initial conditions and preliminary setup procedures:

a. Open the left front and right rear UD5 cabinet doors and locate the Digital Control Unit (DCU), UD5A6.

b. Remove the DAU backplane cover.

c. Redundant site: Repeat steps 2a and 2b for UD1Ø5A3.

3. Perform the following procedures at the DAU backplane:

****ESD**CAUTION**ESD****

All WSR-88D printed circuit cards are electrostatic sensitive devices which require special handling.

a. Put ESD wrist strap on and attach clip lead to the cabinet chassis.

b. Locate Pin XA2AA27 on the DAU backplane (UD5A3). (Note: this pin should have a yellow wire attached to it which was added in attachment 1 from J7 Pin 11.)

c. Using the wire wrap tool, back the wire off of Pin XA2AA27 by placing the tool over the pin and rotating it counterclockwise until the wire is loose and pulls off the pin.

d. Visually inspect Pin XA2AA27 to ensure no wire fragments are left on the pin. If any fragments are evident, clean the pin using a pair of small needle nose pliers.

e. Using a wire cutting tool, cut off the un-insulated portion of the end of the wire (the end removed from Pin XA2AA27) so that all ragged wire is removed.

f. Using a wire stripping tool, strip approximately one inch of insulation off of the end of the wire (the end removed from Pin XA2AA27).

g. Using the wire wrap tool, wrap the end of the wire onto Pin XA2AA25.

h. Redundant Sites: Repeat steps 3b through 3g for the DAU on Channel 1 (UD1Ø5A3).

i. Remove wrist strap and detach clip from cabinet chassis.

4. Perform the following procedures at the DCU drawer:

a. Remove the screws from each side of the unit front. Slide the drawer out until stops are reached.

CAUTION

When removing the securing hardware, use caution not to drop the hardware into the drawer.

b. Remove the top cover of the DCU drawer by removing the securing screws and set the cover aside.

c. NWS and DOD Single: At the RDA Secondary Power Distribution Panel (UD7A28), switch the RDA data processor breakers, CB 15, 17, and 19 (ganged) to the **ON** position.

d. NWS Redundant: At the RDA Secondary Power Distribution Panel #3 (UD7A29), switch the RDA data processor breakers, CB 9, 11 and 13 (ganged) and CB 15, 17, and 19 (ganged) to the **ON** position.

e. FAA Redundant: At the RDA Secondary Power Distribution Panel #1 and at the RDA Secondary Panel #2 (UD7A3Ø), switch the RDA data processor breakers CB 15, 17, and 19 (ganged) to the **ON** position.

ATTACHMENT 4 (Continued)

MODIFICATION TO ENABLE THE RDA TO MONITOR THE PEDESTAL ENCODER POWER SUPPLY

CAUTION

High voltages are present in the DCU drawer. Use extreme caution.

f. Locate the power supply, UD5A6PS3, attached to the right side panel of the DCU drawer. Locate the V+ and V- terminals on the side of the power supply facing the front of the DCU drawer.

g. Using a digital multi-meter, set on the DC voltage setting, measure the voltage between V+ and V- on the power supply by attaching the black (ground) lead to the V- and the red (positive) lead to the V+ terminal screws. Note: the voltage should read between +5 and +6.3 VDC. Record the exact measured voltage below.

+_____ VDC

h. NWS and DOD Single: At the RDA Secondary Power Distribution Panel (UD7A28), switch the RDA data processor breakers, CB 15, 17, and 19 (ganged) to the **OFF** position.

i. NWS Redundant: At the RDA Secondary Power Distribution Panel #3 (UD7A29), switch the RDA data processor breakers CB 15, 17, and 19 (ganged) to the **OFF** position.

j. FAA Redundant: At the RDA Secondary Power Distribution Panel #2 (UD7A3Ø), switch the RDA data processor breakers CB 15, 17, and 19 (ganged) to the **OFF** position.

k. Replace the DCU drawer cover and the securing hardware. Slide the DCU drawer back in and replace the screws on both sides of the DCU drawer front.

5. Perform the following power on procedures:

a. NWS and DOD Single: At the RDA Secondary Power Distribution Panel (UD7A28), switch the RDA data processor breakers, CB 15, 17, and 19 (ganged) to the **ON** position.

b. NWS Redundant: At the RDA Secondary Power Distribution Panel #3 (UD7A29), switch the RDA data processor breakers CB 15, 17, and 19 (ganged) to the **ON** position.

c. FAA Redundant: At the RDA Secondary Power Distribution Panel #2 (UD7A3Ø), switch the RDA data processor breakers CB 15, 17, and 19 (ganged) to the **ON** position.

d. At the RDA Maintenance Panel (UD5A2), place the pedestal electronics power switch to the **ON** position.

e. At the RDA Maintenance Panel (UD5A2), place the DAU power switch to the **ON** position.

f. Redundant sites: At the RDA Maintenance Panel (UD105A2), place the DAU power switch to the **ON** position.

6. Change the RDA Adaptation Data by performing the following procedures at the RDA MMI:

a. At the RDA MMI, press **<Return>** until a CDS> prompt appears.

b. At the CDS> prompt, enter **PO ON<Return>** to turn on the Swing Out Power Subsystem.

c. Once the applications software is completely booted, simultaneously press the **SHIFT** and **PORT** keys to display the applications menu.

d. At the RDA MMI command line, enter **ICRA<Tab right>***password***<Return>** to access the adaptation data menu. The default password is HIGH.

e. At the adaptation data menu command line, enter **SF<Return>** to access the menu for selection file modification.

f. At the adaptation data menu command line, enter **C<Return>** to select the current adaptation data file for modification.

g. At the adaptation data menu command line, enter **A<Return>** to select antenna adaptation data.

h. At the adaptation data menu command line, enter **F<Return>** to page forward to page 2 of the antenna adaptation data.

i. At the adaptation data menu, verify that line 11 ENCODER 5 VOLT POWER SUPPLY TOLERANCE reads 10.0 PERCENT. If not, enter **C<Tab>11<Return>** to select the Encoder 5 Volt Power Supply Tolerance line and change to read 10.0 and then press the **<Return>** key.

j. At the adaptation data menu command line, enter **C<Tab>12<Return>** to select Encoder 5 Volt Power Supply nominal voltage.

k. Type in the voltage of the power supply recorded in step 4g followed by **<Return>**.

l. On the command line, enter **A<Return>** to return to the Adaptation Edit Control menu.

m. On the command line, enter **SC<Return>** to save changes to disk.

n. On the command line, enter **M<Return>** to return to the Main menu.

7. Perform the following procedures to test the modification:

   a. At the RDA MMI command line, enter **TERP<Tab right>***password***<Return>** to terminate the application program. The default password is FLOYD.

   b. At the RDA MMI, simultaneously press the **SHIFT** and **PORT** keys to display the system console screen.

   c. At the * prompt, enter **RDAUP<Return>**.

   d. At the RDA MMI, simultaneously press the **SHIFT** and **PORT** keys to display the main menu.

   e. Ensure that NO "Encoder 5 Volt Power Supply" alarm is found on the main menu status area.

   f. At the RDA MMI command line, enter **ICRA<Return>** to access the adaptation data menu.

   g. At the adaptation data menu command line, enter **SF<Return>** to access the menu for selection file.

   h. At the adaptation data menu command line, enter **C<Return>** to select the current adaptation data file.

   i. At the adaptation data menu command line, enter **A<Return>** to select antenna adaptation data.

   j. At the adaptation data menu command line, enter **F<Return>** to page forward to page 2 of the antenna adaptation data.

   k. Verify at the adaptation data menu, line 11 `ENCODER 5 VOLT POWER SUPPLY TOLERANCE` still reads `10.0 PERCENT` and the Encoder 5 Volt Power Supply Nominal Voltage at line 12 is the same voltage entered in step 6k. (Note: if either line 11 or 12 is different, return to the main menu by completing steps 7l and 7n below. Repeat all steps starting with step 6d.)

   l. On the command line, enter **A<Return>** to return to the Adaptation Edit Control menu.

   m. On the command line, enter **M<Return>** to return to the Main menu.

   n. All Redundant sites: Repeat steps 6 and 7 in its entirety for RDA #1.

ATTACHMENT 4 (Continued)

MODIFICATION TO ENABLE THE RDA TO MONITOR THE PEDESTAL ENCODER POWER SUPPLY

8. Perform the following procedures to return the system to original condition:

   a. Reinstall the UD5A3 DAU backplane cover.

   b. Redundant sites: Reinstall the UD1Ø5A3 DAU backplane cover.

   c. Close the front and rear cabinet doors.

   d. All Redundant sites: Repeat step 8c to close cabinet doors on UD1Ø5.